for undeveloped lots within developed areas. The current cost of the network for these pairs is properly allocated to the current users of the network capacity. The current land use rates produce the best estimate for determining the fraction of pairs left unused. If the current cost of these pairs is not allocated to current users these current costs will never be recovered.

Finally, Mr. Baranowski eliminates any consideration of the fact that all customers in an area do not demand loops from Verizon today and an even higher percentage may use alternative suppliers in the forward-looking environment assumed in the cost study. He does not deny that such losses will occur but rather contends that the fact that these pairs might have been used in the past somehow defrays their current cost when idle. This argument is simply counter to sound economic reasoning. The fact that a pair might have been used in the past has nothing to do with its current cost. The current cost is just that, the current cost of the investment in the current period. Past or future use is irrelevant to the fact that the current cost must be recovered in the current period by current users.

Finally, Mr. Baranowski contends that even if one accepts the reality of vacant land parcels and losses to competition these cancel each other out because the pairs lost to competition can be used to serve the vacant lots. This argument evidences a lack of understanding of how outside plant is engineered. Are the OSP engineers to assume that a competitor will conveniently take a customer from Verizon each time a lot is developed? What if the subscriber decides to return to Verizon? The two mechanisms: pairs allocated to vacant lots, and pairs left idle due to competitive loss, are independent of each other and must be independently factored into the utilization calculation.

In summary, Mr. Baranowski proposed "adjustments" to Verizon's calculation of forward looking distribution utilization are completely unsupported and should be rejected.

Q. Mr. Baranowski claims that actual Massachusetts data indicates a 60% utilization of distribution pairs. Is he correct?

A. No. He has misinterpreted the data by comparing working pairs to "available pairs." The proper calculation is working pairs to the total inventory. The "available" category excludes left-in disconnected pairs and defective pairs. Furthermore, the data considered by Mr. Baranowski includes only pairs terminated at SAI cross-boxes and does not account for the 10% breakage that he conceded must be included in the analysis.

Data provided by Verizon MA demonstrates that actual distribution utilization closely approximates 40% and has been stable for many years. There is no reasonable basis to anticipate an increase. While the aggregate average line demand in Massachusetts is relatively stable over sufficiently large numbers of customers, individual customer access line demand is highly variable and unpredictable in both the long and short term. The distribution plant must be sized to accommodate this statistical uncertainty at every level of customer aggregation: local access terminals, local street branch cables and backbone cables. The two-pair allocation has been proven by experience to be the lowest allocation per potential customer location that accommodates demand variability and maintains the lowest network cost. Pushing the network to utilization rates of 64.1% would result in costly rebuilds to reinforce areas where demand exceeded the number of pairs allocated. Customer complaints stemming from an inability to provision timely service, held orders, unacceptable repair intervals, and disruptions caused by Verizon crews digging up streets, lawns and driveways would increase dramatically if utilization rates were driven to anywhere near 64%.

The simplistic examples presented in the rebuttal testimony of AT&T, WorldCom and the CLEC Coalition are based upon a network with one distribution area where cable pairs can be magically moved from one street to another to care for unforeseen growth, churn, or breakage. They suggest that, rather than dedicate two pairs per living unit, timely and costly rearrangements to get the pair to where it is required is a better, more cost effective and forward looking way to provision service. This is not new or forward-looking thinking. Rather it is a recommendation to return to practices that were abandoned by the industry decades ago. These short-sighted practices were abandoned because they resulted in high operating costs and poor service. The practice of allocating two or more pairs in the local terminal for each customer location avoids costly rearrangements and inefficient drop cabling. When a customer on First Street orders a third line, its not a simple task to move the spare line from Fifth Street (possibly digging up Second, Third and Fourth Streets in the process). Over time, utilization fluctuates in any given distribution area. Driving the aggregate level in Verizon MA to even 60% would not be practical and would result in driving some growing areas to 100% to offset areas where installations are new or growth is minimal or zero. Even at the current utilization rate for distribution cable of 40%, in approximately 25% of the distribution areas in Massachusetts 10% or less of the pairs are currently available for assignment.

Since a forecast of the varying service demand over the life of the distribution is a practical impossibility, an increase in the number of cases where undersized distribution cable must be reinforced or cable pairs rearranged to provide timely service will occur when utilization rates are increased dramatically. While some distribution areas may at times have 64.1% utilization, it contradicts proven industry practice to propose that these could be the "forward looking" average fills for an entire network. If we consider the actual size and scope of a network serving Massachusetts, the proposed fills are the maximum theoretical fills that could ever be achieved. In any real network, including a forward-looking one, experience tells us that these conditions are never reached on average. Even in the most developed area, lots remain vacant. For example, Massachusetts Property tax data showed that 11% of all taxable parcels are currently undeveloped. Single family houses are built in two-family zoned areas. Many existing units are vacant at any given point in time and not every customer demands service from Verizon. The 2000 Census reveals an overall vacancy rate of 6.8% for Massachusetts.

Q. What would happen if Verizon departed from sound engineering practices by using a specific fill factor for distribution plant design instead of applying the ultimate sizing concept?

A. If distribution plant were designed, sized, and constructed based upon the recommendations of the other parties, the result would be higher costs and service degradation. The geographic area served by Verizon in Massachusetts is composed of over 13,650 distribution areas. Approximately 1300 feeder routes throughout the State feed these distribution areas. If facility relief had to be planned, designed and constructed to each of these distribution areas on a regular basis, a larger engineering and construction work force would be necessary to handle this volume of work because each area would require a periodic facility review and possible relief project. More Massachusetts customers, including the very wholesale customers in this proceeding that want their UNE prices based upon high fill levels, would wait longer for new service and suffer lengthy delays for repair of service failures.

Moreover, the accuracy of the forecast at such a discrete distribution area level is relatively low, as described above. If distribution plant was only installed based upon a fill level threshold and distribution plant did not exist where and when needed, additional work tasks similar to those necessitated by feeder shortages would have to be launched. Orders held for no facilities would increase significantly and solutions to serve the customer would have to be manually developed. However, because the distribution plant is smaller and, by design, much more localized, rearrangements would be less feasible as a possible solution.

Consequently, additional distribution plant would have to be designed and constructed on an expedited schedule (and resulting higher costs) in order to reduce service delays. Since demand in any particular street or terminal fluctuates up and down, some of this costly additional plant will become spare at a later date. Over time the plant would be gradually augmented and the utilization of local segments would fluctuate until it approached the stable two pair allocation with an average utilization in the 40% range. The result is approximately the same inventory of plant that was assumed in the Massachusetts' model. The difference is that the result would have been achieved based upon as extraordinarily inefficient process resulting in much higher per unit costs.

Therefore, sound engineering principles require distribution plant to be sized and built based upon the calculated ultimate demand for each distribution area in order to maximize a high level of service in the most cost efficient manner practical.

Q. Please comment on Dr. Ankum proposal that a 75% utilization rate be used for distribution pairs.

A. Dr. Ankum is not an engineer and has no experience designing outside plant. Not surprisingly, he does not offer any justification for his recommendation. Assuming the 80% feeder facility utilization also recommended by Dr. Ankum, a 75% distribution pair utilization implies that there are only 1.1 distribution pairs for each feeder facility. Dr. Ankum's recommendation would essentially result in direct feeder facilities to every customer. The fact that Dr. Ankum would make such an unjustified set of recommendations further demonstrates his total lack of expertise in network engineering. This and all other aspects of his testimony with regard to network engineering and design should be rejected outright.

E. Copper Feeder Fill

Q. Are the witnesses testifying on behalf of AT&T and WorldCom correct in claiming that the appropriate forward-looking copper feeder fill is 80% and 85% as Dr. Ankum claims on behalf of the CLEC Coalition?

A. No. Unlike distribution cable, feeder cables are typically sized to accommodate three to five years of known growth. The process by which feeder cable is sized begins at the route level of a central office area. A representative central office has four routes (NSEW) where feeder cables leave the building to serve customers. Each route is broken down into sections and monitored at this level by a planner. A feeder job is generated when normal growth or impact growth (new building) is projected to occur and elevate fills, in a section of the route, beyond a benchmark level of 90%. Again, the witnesses have provided isolated examples to make the argument that copper utilization should approach 80-85% rather than operate at Verizon's factor of 55%. Looking at only one section of only one route in one central office, it is easy to make the case that 55% may be too low.

Again, it is necessary that we discuss the real world. As stated earlier, feeder jobs are generated when known demand occurs. Over the years, demand for telecommunications services and many other services have shifted in response to economic conditions, demographics, and many other reasons. For example, cables built to address service demands in cities in the 1960's, realized losses and lower utilization as demand and populations shifted to the suburbs. On an aggregate level in Massachusetts, this phenomenon is an everyday occurrence. New projects for feeder relief where known growth is projected to elevate fills to 85% or more are submitted every month in Massachusetts, even though the overall growth rate today is minimal. Existing plant is not always available for new growth. Existing cables cannot be removed and relocated from declining areas to growing areas to satisfy demand. Verizon does strive to retire older plant. However, there are rarely situations where a cable can be retired without involving some costly rework to transfer the remaining working lines from the old cable and allow crews to remove it from service. Furthermore, although demand may temporarily dip in a particular section, it is likely that demand will return at some point in the future. It would be economically inefficient to continually rearrange and retire cable in response to every demand fluctuation just to increase average utilization. Feeder utilization is a measurement of network requirements used to guide efficient design and deployment, not an end itself. The result is that actual copper cable fills are generally much lower than the 85% fill relief benchmark.

The fill factor is utilized as the trigger to determine what portions of the feeder plant require closer analysis to determine if there is a need for additional cable pairs, and when these pairs need to be available for use. The challenge is to ensure that Verizon always has an adequate reservoir of spare pairs for new service requests without an excessive investment of outside plant sitting idle. By monitoring growth and current fills, and the use of forecasts, Verizon MA identifies the feeder routes, or segments thereof, that will attain or exceed the relief level of 85%. When it is determined that a feeder route is likely to achieve the relief point, Verizon

MA designs and constructs additional feeder pairs so that they can be available for use before the route reaches the maximum fill of 85%, thereby preventing excessive service delays.

The need to provide adequate spare facilities is tempered by the need to build and maintain the outside plant in a cost efficient manner. It is not efficient to engineer and maintain excessive amounts of idle, or unused, plant. Furthermore, it is not efficient to employ a work force that is large enough to design and construct feeder facilities throughout all portions of the network at the same time.

The threshold factor must represent a balance of these considerations to ensure that service is provided in a timely and cost efficient manner. This threshold factor is not blindly utilized to drive relief. Rather, it serves as a warning flag that leads to a careful review of the feeder route by outside plant planners to determine if relief is needed. Typically, if additional feeder is needed, the proper job is planned, designed, and constructed in 1-2 years.

Verizon MA proposes that the steady state fill of 55% is appropriate in a forward-looking model for copper feeder cable. This is supported by the fact that the current copper feeder cable fill of 55% has been relatively constant for years in high growth and in low growth periods. These same levels, which have been achieved as a result of the continued application of efficient engineering design determinations, would be reasonably expected in a forward looking scenario.

F. RT Plug-In Fill

Q. Are the witnesses testifying on behalf of AT&T, WorldCom and the CLEC Coalition correct in claiming that the appropriate forward-looking RT plug-in fill is 90%?

A. No. Once a remote terminal and the common equipment is in place, digital loop carrier systems allow engineers to provide feeder relief faster than if copper feeder were required to be installed. Adding plug-ins to an RT is a form of feeder relief. As such, the process that the planner uses to determine when relief is needed is the same as with copper cables. When a planner identifies growth in a section of a route fed by a remote terminal however, the benchmark for triggering a relief job is 90%. The number of plugs added to the RT will be sufficient to address six months to one year of known growth. Through operating experience, the industry has learned that increasing fills beyond the objective level of 90% results in high maintenance cost and unacceptable customer service. The objective of 90% for DLC systems recognizes that additions to DLC systems can be accomplished more quickly than building new copper feeder cables, so a smaller margin does not degrade service or economic efficiency.

In the rebuttal testimony provided by the witnesses for AT&T, WorldCom and the CLEC Coalition, simple examples that are based upon a network consisting of only one remote terminal are used to support the argument that the appropriate RT plug-in utilization should be 90%. There is no doubt that in the case of individual RT's, a utilization rate of 90% may be achieved before capacity is added. This cannot, however, be the average condition for all of the RTs throughout the entire network. Any average is the mean of a distribution of individual items, in this case RTs, having values above and below the mean. For the average utilization to be 90%, many RT's would have to be filled above the relief maximum resulting in higher cost and poor service. In the real world, there are over 2,000 remote terminals deployed in Verizon MA's network. These terminals were constructed over the past ten to twenty years and serve many diverse areas throughout the State of Massachusetts. Like areas served by copper cables, some have grown and some have declined thereby resulting in certain idle investment. To offset such idle plug-in investment, Verizon has re-deployed plug-ins from low usage areas to growing areas to increase utilization levels to approximately 80%. In a forward-looking network, similar levels of utilization would be expected as service is added or lost in the network. Therefore, based upon Verizon MA's experience, a utilization level of 80% is an efficient and appropriate aggregate level for a network sized to serve an area like the State of Massachusetts.

G. Fiber Cable Fill

Q. Are the witnesses testifying on behalf of AT&T/WorldCom correct in claiming that the appropriate forward-looking loop fiber cable fill is 100%?

A. No. The suggestion that any practical system can or should be operated at 100% utilization is absurd. Establishing a new fiber cable is a large undertaking and can take well over a year to complete from inception to finished job. When sizing a new fiber cable, engineers consider such things as known growth (3-5 years), potential requirements for services, interoffice needs, and route diversity. Many of these considerations are based on forecasts and engineering judgement. Operating the network with fiber 100% utilized would mean that Verizon could not respond to any demand for new service that required fiber without initiating construction. There would be no "dark fiber," or any unused fiber strands. Any orders for such services would have to held or more likely would be lost to competitors. Furthermore, 100% utilization is impossible to attain at the aggregate level and nearly impossible at any level. Utilization at 100% means no allowances for breakage; defects due to wear, manufacture defects, and maintenance. It is generally understood that fiber manufacturers assume that a small percentage of their product will be defective and will not meet minimum transmission quality standards. Finally, the witnesses again oversimplify the complexity of the network by using a simplistic single-route example to illustrate their point. There are over 700 routes in Massachusetts that are served by fiber linking over 2000 remote terminals to central offices around the State. To suggest that all 100% of fiber strands should be in service at all times is unreasonable.

Q. Mr. Baranowski contends (page 18) that a duct utilization factor is inappropriate. Do you agree?

A. No. The operational requirements for spare ducts in a conduit system (a collection of several ducts) and for spare inner ducts within an individual duct are distinct. Conduit systems are designed with enough capacity so that at least one full contingency spare duct can be preserved in a majority of cases. The reason is obvious. Relieving a conduit system is a major construction project with large cost and significant environmental impacts. Providing contingency capacity in the initial construction is prudent and cost effective in the long run. If this contingency duct is to be preserved, it can obviously not be used on a planned basis to support cable additions or emergency maintenance activity. This is the function of the spare inner ducts provided in the working ducts. The contingency spare duct and the spare inner ducts serve different operational needs, and a separate utilization factor to account for each of them is perfectly reasonable and appropriate. Moreover, throughout the State Verizon MA is required by many municipalities to reserve a duct for municipal use. This operational reality also needs to be considered when determining duct utilization.

H. Copper vs. Fiber

Q. Is Dr Ankum, testifying on behalf of the CLEC Coalition, correct when he advocates copper feeder in the Metro zone? (P. 60 of Ankum).

A. No. Dr. Ankum makes an incorrect assessment of the Verizon cost study. Verizon's cost study assumes fiber feeder based upon the economic copper/fiber cross over points in the study. Also, the study appropriately recognizes that customers in the Metro zone demand optical technology because of the need for survivability and increased bandwidth. These customer requirements can not be met with copper feeder. Continued copper use the Metro zone as recommended by Dr. Ankum will eliminate technological choices for those customers closest to the central office. Moreover Dr. Ankum's recommendation is contrary to TELRIC methodology to deploy the most efficient technologies. The Verizon cost study is supported by Verizon engineering guidelines recommending fiber fed NGDLC in the Metro cells. In fact, the Department approved the Metro cell 100% fiber fed NGDLC architecture in the original case hearings.

Q. Is Dr Ankum correct when he advocates a copper feeder solution rather than a dedicated remote terminal for buildings?

A. No. Dr. Ankum uses four totally unsupported or patently false assertions to support his "recommendation." First, Dr. Ankum states that: "In the real world, companies do not design their networks that way." Dr. Ankum's assertion is completely unfounded. The network design that Dr. Ankum alleges is “not used” is the very design used by Verizon today – and to our knowledge other local exchange companies – and will continue to be used on a forward-looking basis. It is particularly ironic that Dr. Ankum makes this assertion in this proceeding since the DTE is aware that Verizon has entirely reconstructed a large portion of the loop facilities in the city of Boston using this design.

Second, Dr. Ankum states “There is nothing in VZ-MA’s engineering guidelines that suggests that 100% dedicated RT is the most cost efficient design.” Apparently, either Dr. Ankum has not actually reviewed or does not understand the Verizon guidelines. The evaluation and placement of fiber based DLC within buildings is addressed in the guidelines.[15] The dedicated remote terminal design for large buildings results from a logical application of the guidelines in the forward looking network. Providing a dedicated remote terminal at a large building goes beyond the simple quantitative analysis of the Metro cell, which is supported in our cost study. Many economic and operational factors, such as real estate space available, security and access to equipment, and projected bandwidth requirements are taken into account in the deployment decision.

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[15] For example Section 5 paragraph 6, page 15: “Perform a cost analysis for areas close to the CO to determine if it is economical to place a fiber fed loop electronics system. Consider locating the RT site within a customer premises location and obtain an easement that allows us to serve other areas from this location. Review out-of-hours access, powering requirements and any unique factors associated with a customer premises location.“

Dedicated remote terminals in buildings, sized to optimize capacity, eliminate the real survivability and security concerns of building tenants and result in fewer occurrences where it is necessary to construct additional facilities in a very constrained network environment.

Third, Dr. Ankum states "In New York, VZ did not advocate this design. In fact, in New York there were many instances where the RT for large buildings was placed outside of the building."

The statement is erroneous. Dedicated RTs is the design employed in NY for large buildings. This fact is clearly documented in the record of the recent New York UNE proceeding. In light of the clear record in the New York proceeding, Verizon MA does not understand the basis for Dr. Ankum's assertion that "there were many instances where RT's for large buildings were placed outside of the building." Perhaps he has confused the use of CEVs or similar underground enclosures to house RT's in some metropolitan installations with the situation of serving a large building. Such underground structures are used in metropolitan areas as substitutes for the common above ground cabinets typically used in suburban areas. In either case, the RT is serving an extended distribution area not a single building. An RT outside in a CEV to serve a large building would only be employed in the very rare circumstance that the building owner would not supply space within the building. The reason is simple economics. An underground structure in a metropolitan environment could cost $100K or more. Space within buildings is usually less expensive.

Fourth, Dr. Ankum alleges: "It is wasteful to incur the expense of an RT with ample spare to serve other customers, but to limit the use of this RT artificially to just one set of customers."

Dr. Ankum offers no support for this assertion. The RTs placed in a building are efficiently designed and sized to the application, not with ample spare. Efficient engineering decisions should be based on the relative economics of the available alternatives. The use of a dedicated RT to serve a large building is more economic generally than the practical alternatives which are typically either copper cable or copper extension from a remote RT. The economics of fiber versus copper always favor extending the RT as close to the customer as possible as long as two conditions can be met: that a site for the RT can be obtained at reasonable cost and that the fill of the system exceeds a threshold level. Both conditions are met in the large building situation. Locating RT's within a building involves minimum site cost and the line size threshold used in the study insures that reasonable fill is achieved.

V. LOCAL SWITCHING

Q. Please summarize this section of the Panel Surrebuttal Testimony.

A. This section responds to the parties' criticisms of Verizon MA's proposed switching costs. Their claims are flawed for several reasons, including the following:

- AT&T/WorldCom incorrectly state that Verizon MA assumed only "growth" switch discounts in its cost studies. In fact, Verizon MA assumed an appropriate mix of new and growth discounts that accurately reflects Verizon MA's forward-looking mix of switch purchases.
- AT&T/WorldCom's assertion that a proper forward-looking cost study should assume that Verizon MA purchases only new switches is wrong. Even if the Department were to adopt AT&T/WorldCom's switch discount theory, there is no reason to assume that Verizon MA would be able to replace its entire switch network simultaneously at the current new switch discounts. Under this scenario, vendors would likely increase switch prices to account for this increasing demand and decreasing supply of switches.
- Contrary to AT&T/WorldCom's claims, the SCIS model does not model the costs of only new switches. Rather, the SCIS model can be used to develop growth or replacement costs, or a combination thereof. The SCIS model is further explained in the surrebuttal testimony of Verizon MA witness David Garfield.

- Verizon MA applied the appropriate discount, which reflects new and growth switch discounts, to all switching investments. AT&T/WorldCom's claim that Verizon MA always receives a new switch discount for certain components, such as "getting started" costs, is simply wrong. Verizon MA routinely upgrades and grows switches by replacing "getting started" components such as switch processors, and receives a growth discount for these purchases.
- AT&T/WorldCom grossly overstate the amount of GR-303 switch technology that should be assumed in Verizon MA's cost studies. Verizon MA has no immediate plans to deploy GR-303 in its switching network. Verizon MA's assumption that 25% of the switches will be GR-303 is therefore aggressively forward-looking, and results in the understatement of forward looking costs. Verizon MA also correctly assumed a 3:1 line concentration ratio for GR-303 switches.
- AT&T/WorldCom's criticisms of Verizon MA's port utilization inputs reflect a misunderstanding of Verizon MA's cost studies. Contrary to AT&T/WorldCom's claims, Verizon MA did account for the breakage included in SCIS by increasing the utilization rate included in the cost study. Moreover, Verizon MA must account for utilization in both SCIS and the switching cost study to fully reflect Verizon MA's utilization assumptions.

- AT&T/WorldCom's criticisms of Verizon MA's Busy Hour ("BH") trunk usage are unfounded. Verizon MA's trunk BH usage is based on Massachusetts's actual trunk usage, and should not be arbitrarily increased.
- AT&T/WorldCom's criticisms of Verizon MA's feature port costs are baseless. Verizon MA's feature usage assumptions reflect its many years of experience in providing features to end users. AT&T/WorldCom provide no support for their attacks on these usage assumptions, nor do they offer any alternatives, even though AT&T/WorldCom both provide features to end users and presumably have their own usage data.
- Verizon MA has correctly identified switching costs as both traffic-sensitive and non-traffic-sensitive. AT&T/WorldCom, in stark contrast, misidentify usage-driven costs in an attempt to shift most of the switching costs to the port rate element. In addition, AT&T/WorldCom's claim that "getting started" costs and EPHC costs are not traffic-sensitive is plainly wrong. Although switch capacity is also limited by ports, usage is by far the predominant driver in determining "getting started" and EPHC costs. Verizon MA witness David Garfield also addresses traffic-sensitive versus non-traffic-sensitive costs in his surrebuttal testimony.

- Contrary to AT&T/WorldCom's claims, Verizon MA's proposed Right to Use (RTU) fees are well documented and supported by the record. Verizon MA also properly identified these costs as traffic-sensitive.
- AT&T/WorldCom's attacks on Verizon MA's engineering, furnished, and installed (EF&I) switching factor reflect a deep misunderstanding of how this factor is developed. It is developed from Verizon's DCPR data, which reflects, among things, the costs to install switching equipment throughout the Verizon footprint in 1998. This factor estimates the cost to install digital switching equipment based on the relationship between material investments and installation costs that existed in 1998. Using an EF&I factor from 1992, as AT&T/WorldCom propose, is inappropriate because it reflects the architecture in place in the 1990-91 time frame, the discounts available to Massachusetts in that time frame, and an outdated mix of technology, demand, demographics and other considerations.

A. SCIS Results Do Match the Filed Cost Study

Q. AT&T/WorldCom claim (Pitts at 6) that the SCIS results in electronic form don't match the SCIS results used in Verizon MA's cost study. Can you explain this?

A. In the process of saving the SCIS/MO program for distribution to the parties, some of the files were apparently corrupted. This corruption apparently produced false results when AT&T/WorldCom first ran the program. Upon notification from AT&T/WorldCom that they were experiencing problems reproducing the study results, Verizon MA contacted Telcordia to analyze the problem. Telcordia determined the copy of SCIS/MO AT&T/WorldCom was working from was corrupted. As acknowledged by Mr. Pitts, Verizon MA has supplied AT&T/WorldCom with a non-corrupted copy of the SCIS/MO program that produces the same results that Verizon MA used to develop its switching costs.

Q. AT&T/WorldCom also claims that the Integrated Digital Loop Carrier (IDLC) investment from SCIS was entered into the workpapers incorrectly. Is that true? (Pitts at 9).

A. Yes. This was a simple copy and paste error. Verizon MA has attached to this testimony a version of the switching cost study that corrects this error.

B. Discounts

1. Assumption of New and Growth Switch Purchases

Q. Did Verizon MA include a growth-only discount in calculating switching costs, as AT&T/WorldCom claim? (Pitts at 10).

A. No. The Verizon MA switching discount is based on a mixture of new, growth, and upgraded switching equipment discounts. As Verizon MA explained in its Initial Panel Testimony, Verizon MA based its forward looking switch discount on the effective discount that it received based on actual purchases in 2000 from Lucent.[16]

Importantly, the Lucent data for 2000 data includes the discount received for two ***new*** 5ESS switches (Benning, DC **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]** and Brookland, DC **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]**.

Q. How was the Nortel discount calculated?

A. Verizon MA developed the effective discount for the Nortel switches using Nortel's current contract with Verizon. Notably, although this contract specifically addresses growth equipment, the effective discount Verizon MA used in the cost study is **[VERIZON MA PROPRIETARY BEGINS]**

[VERIZON MA PROPRIETARY ENDS].

Q. Do you agree with AT&T/WorldCom's claim that TELRIC principles require that Verizon MA use only a replacement (new) switch discount in calculating switching costs? (Pitts at 11-16).

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16 *See* VZ-MA Panel Direct at 153.

A. No. TELRIC principles do not require that Verizon MA use only a replacement switch discount in calculating forward-looking switching costs. In fact the FCC has accepted the use of actual switch discounts as the appropriate assumption for calculating switching rates. In its SBC Kansas/Oklahoma 271 Order, the FCC agreed with the state's commission's conclusion that the appropriate discount rates for switches were the actual discounts received. The ALJ determined, and the FCC agreed, that predictions based on information other than the current contracts would be inherently inaccurate.[17]

Q. Why does Verizon MA believe that using one year's worth of purchases reflect what it will purchase in the future?

A. What Verizon MA experiences in the most recent calendar year is predictive of what it will experience in future years. As explained in Verizon MA's Initial Panel Testimony, this mix of growth additions and new switch purchases is the most accurate indicator of the mix of switching equipment it intends to deploy in the network over the planning period.

Moreover, the 2000 data represent a very large sample size, including over **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]** worth of switching equipment purchases for Lucent. For

[17] See Memorandum Opinion and Order, *Joint Application by SBC Communication, Inc., Southwestern Bell Telephone Co., and Southwestern Bell Communications Services, Inc. d/b/a*